

Alternative Fuel Transportation Program: Options for Local Government and Private Fleets



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Today's Agenda

- **Purpose of the Workshop**
- **Introduction of Attendees**
- **Background**
- **Presentation of Issues**
- **Discussion of Options**
- **Wrap-up/Schedule for Future Actions**



Purpose of the Workshop

DOE wants to discuss regulatory and other issues related to potential alternative fuel transportation requirements for local government and private fleets. Specifically, this includes:

- **Reactions to Federal Register Notice (Vol. 65, No. 140, pages 44987-44991), especially the options presented**
- **Impacts of options**
- **Implementation approaches**
- **Barriers to compliance**
- **Other ideas/innovative concepts**

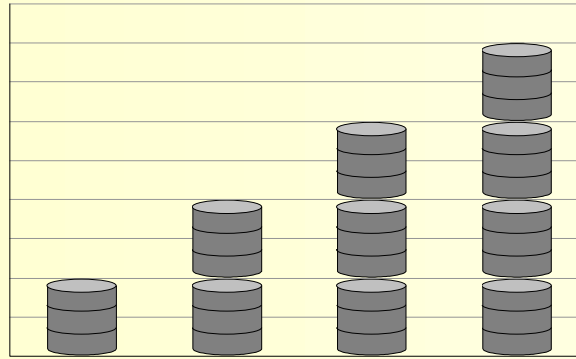


Introduction of Attendees

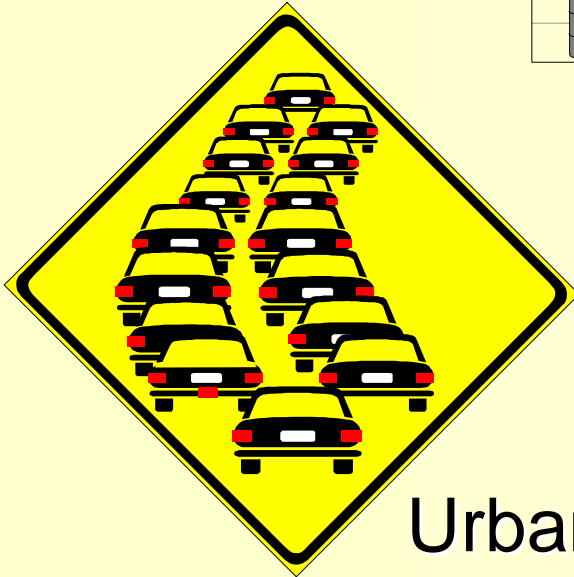
- **DOE Personnel/Support**
- **State Government Representatives**
- **Local/Municipal Government Representatives**
- **Others**



The Challenges Facing Us ...



Growing
Petroleum
Consumption



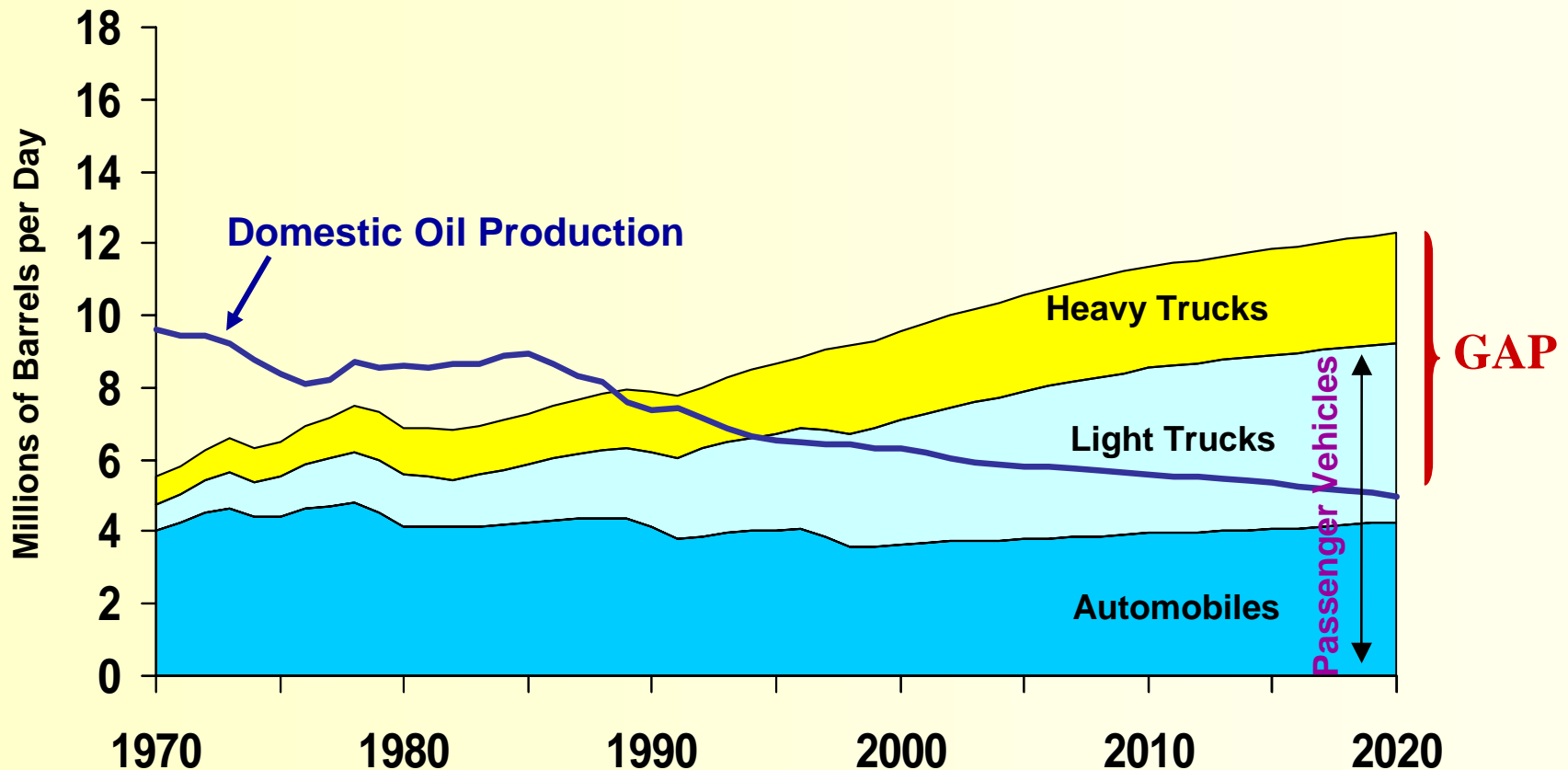
Urban
Pollution



Global
Climate
Change



U.S. Highway Transportation Uses More Oil Than Is Produced Domestically

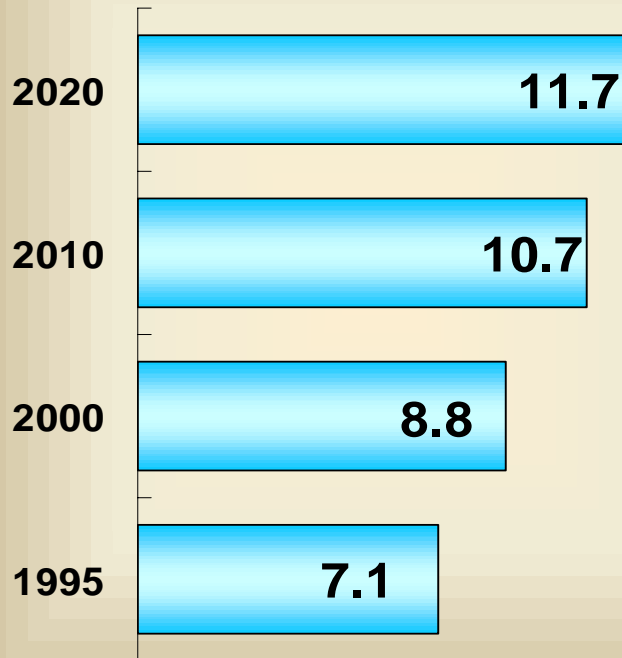


Source: Transportation Energy Data Book: Edition 18, DOE/ORNL-6941, September 1998, and EIA Annual Energy Outlook 1999, DOE/EIA-0383(99), December 1998

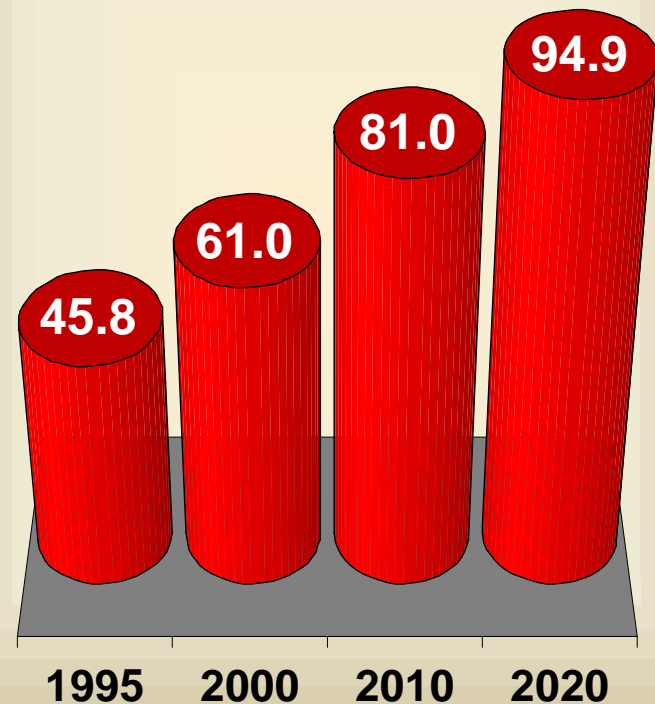


Economics of Oil

**U.S. Imported Crude Oil
(Million Barrels per Day)**



**Annual Cost of
U.S. Crude Oil Imports
(Billions 1996 \$)**



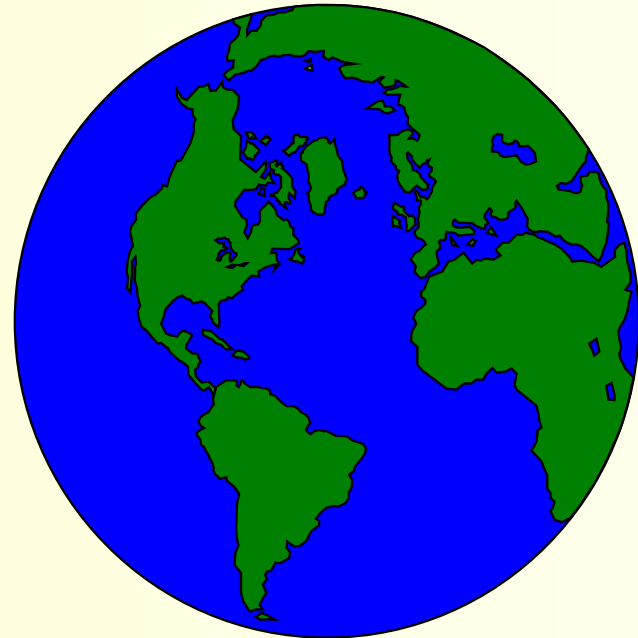
Projections from 1999 Annual Energy Outlook



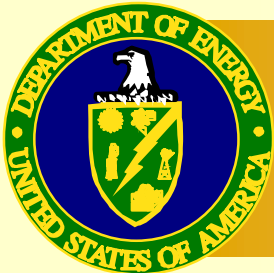
U.S. Transportation and Global Warming

Kyoto Agreement (December 1997)

Agreement to reduce
greenhouse emissions to
7% below 1990 levels by
2008-2012



In the US, the transportation sector
accounts for 1/3 of CO₂ emissions and is
the fastest growing contributor



Fuel Economy Historically is Low on Consumers' List of Priorities...

December 21, 1998



[gasoline] selling for as little as \$1.10 per gallon, most motorists could care less about fuel economy

December 21, 1998

The Detroit News

Government wants fuel-thrifty cars, but buyers don't

By Kenneth Cole / Detroit News Washington Bureau

Cheap gasoline prices make the challenge of designing fuel efficient cars all the more difficult. With premium octanes selling for as little as \$1.10 per gallon, most motorists could care less about fuel economy.

Sales data affirm as much.

Of the 14.1 million 1998 model cars and light trucks sold in the United States through Aug. 31, only 159,209 — 1.1 percent — were models that ranked in the top 10 in their respective classes in fuel economy, according to the Environmental Protection Agency. Similarly, only 105 of the 15,039 motorists who participated in a 1998 survey by AutoPacific Inc. — a paltry 0.7 percent — said protecting the environment factored into their auto-purchase decisions.

Car companies say government should raise gas prices and offer motorists tax breaks for buying such clean machines to shore up the market for them. Indeed, automakers have become increasingly vocal on such matters. One reason for their seeming sense of urgency to bring greener vehicles to the market: The specter of tougher government regulations.

"Clearly, unfolding science and medical studies support stronger regulations for air pollution and global warming, and they're coming down the pike," said John Passacantando, executive director of Ozone Action, an environmental watchdog agency in Washington. "If automakers are smart, they'll try to get ahead of the curve because it's got to be costly always playing catch up."

Evidence to support his prediction of future rules abounds:

- Just last month, California clean-air regulators ruled that light trucks must match car-emissions levels by 2004. The feds are now weighing such a rule.
- Environmentalists recently renewed calls for the Senate to commit the United States to the worldwide global-warming treaty drafted last December in Kyoto, Japan. The pact seeks to curb man-made greenhouse gas emissions.
- The EPA — prohibited from introducing more stringent emissions rules until 2004 — is expected to unveil its would-be standard in late January. It almost certainly will demand steep cuts in greenhouse gases and pollution.

Competition also calls for greener cars.

"There's a competitive imperative to be responsive to environmental concerns," said Ford Chairman-elect William Clay Ford Jr. in a speech to the Society of Automotive Engineers in Detroit. "Woe be it to the company that ignores them."



According to EPA
... Only 159,209 — 1.1 percent — [of 14.1 million vehicles sold within the first 8 months of 1998] ranked in the top 10 in their respective classes in fuel economy

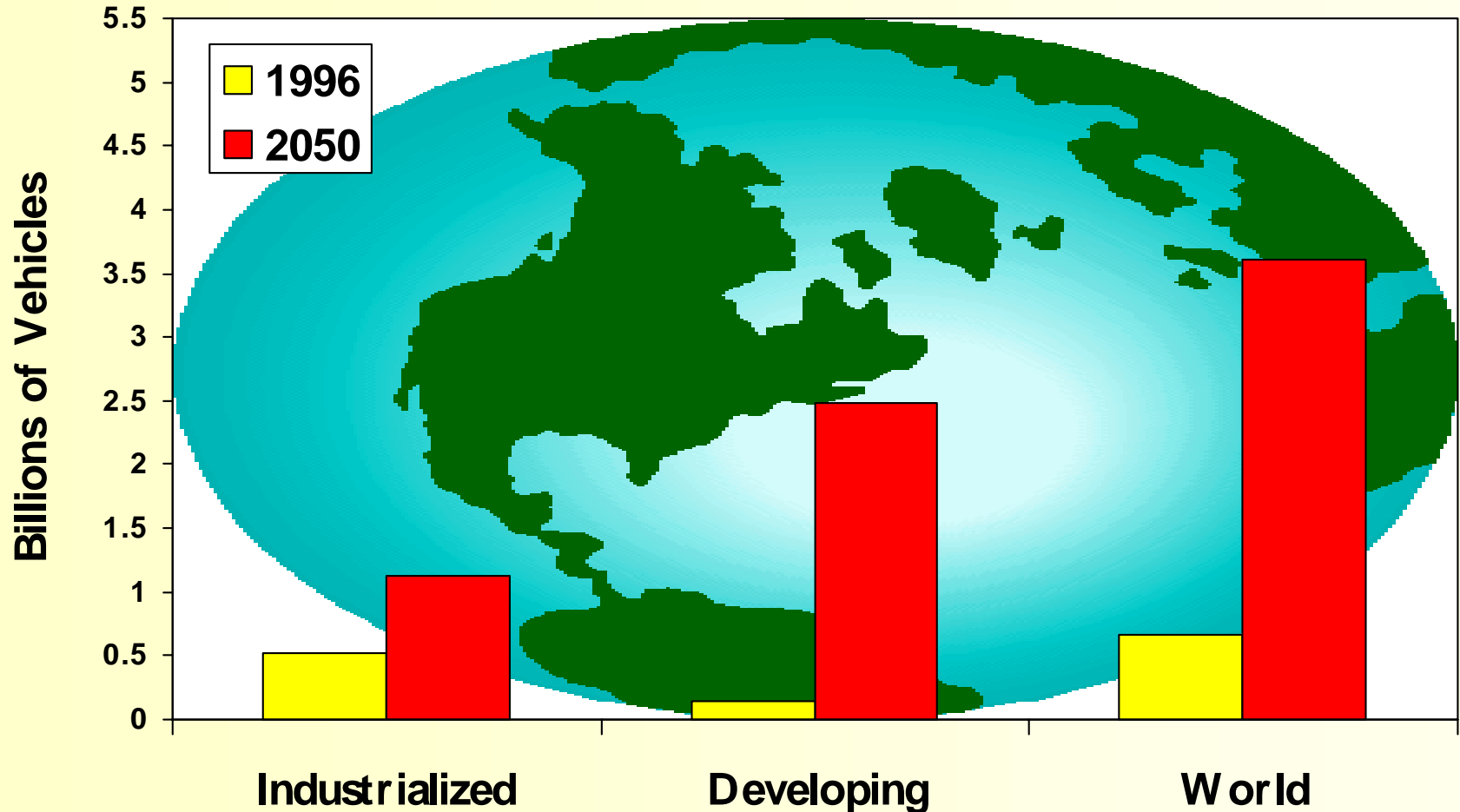


... But Look What's Happened More Recently

- Crude oil price rose from \$10 per barrel in January 1999 to \$31 per barrel in March 2000
- Average U.S. gasoline price rose from \$0.98 per gallon to over \$1.60, and much higher in the upper Midwest (>\$2.30/gal)
- Solomon Smith Barney estimated that these price increases will reduce economic growth by 1.5 percentage points and add a percentage point to the rate of inflation
- \$89 million provided by the Government to help NY and New England low-income families with home heating oil
- U.S. gasoline reserves at lowest point in 15 years



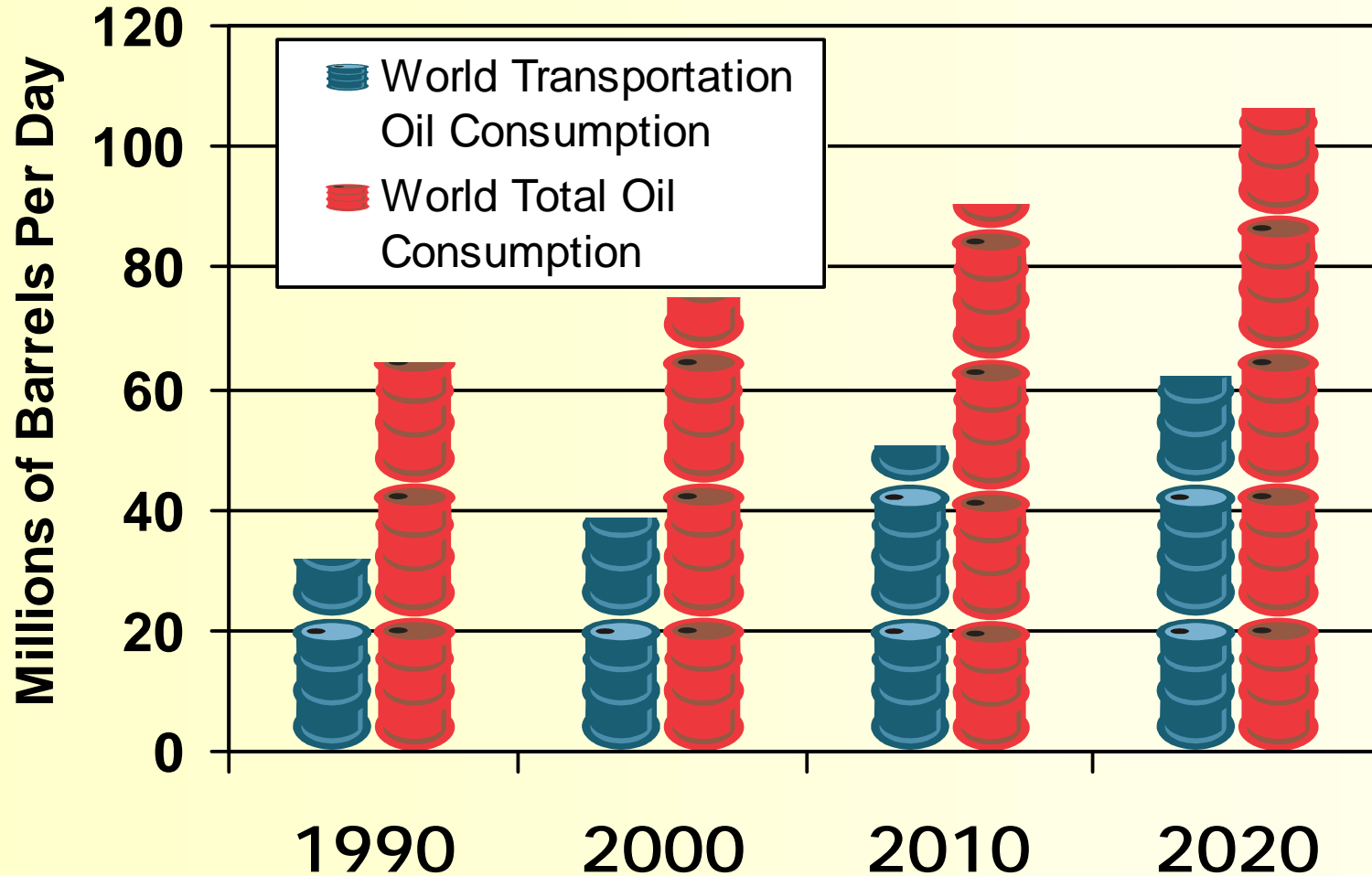
World Vehicle Registrations



Source: OTT Analytic Team



Increasing World Oil Consumption

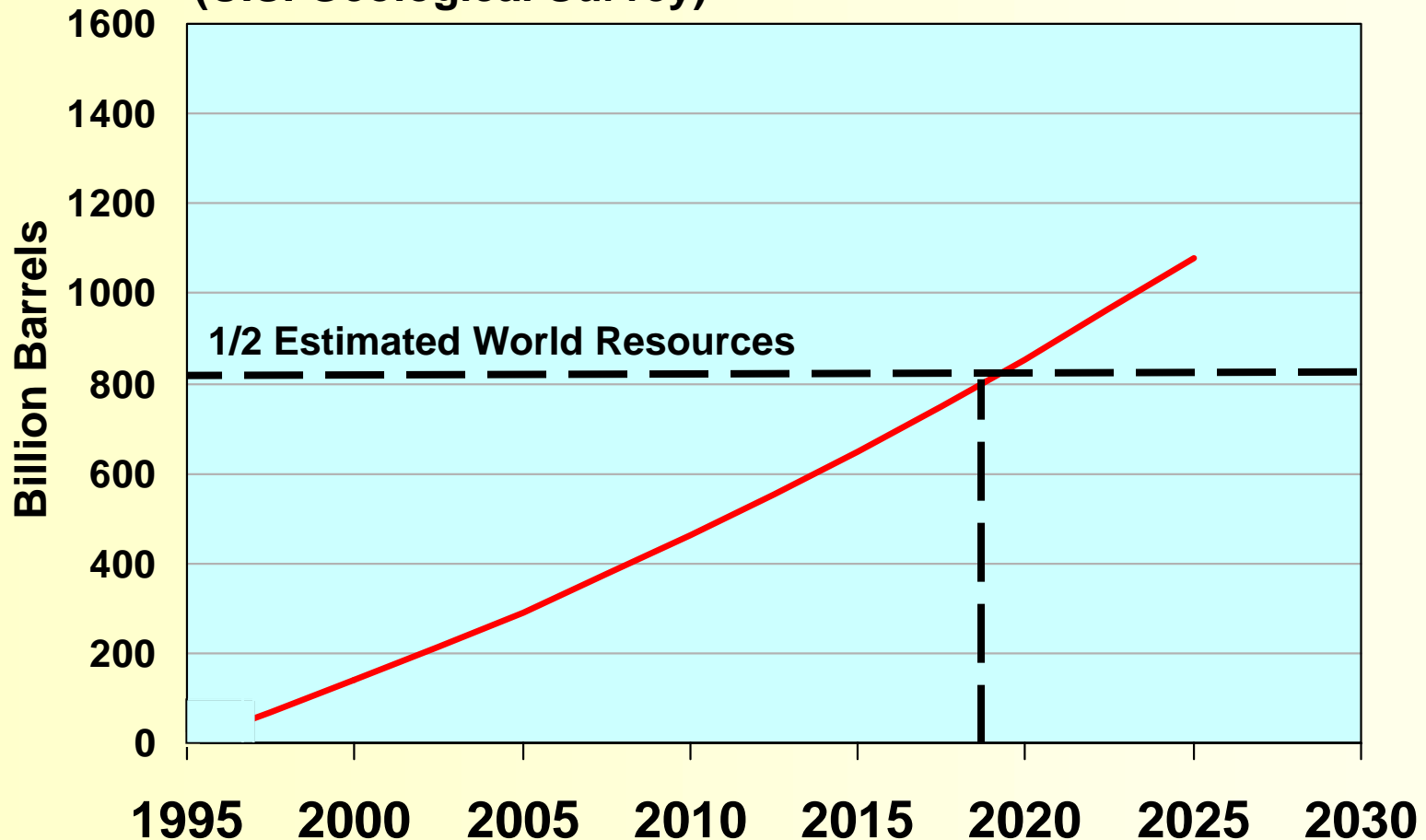


Source: International Energy Outlook 1999

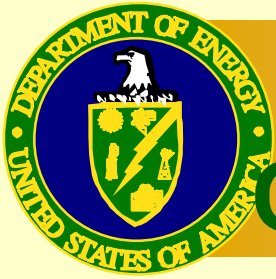


Depletion of World Oil Resources

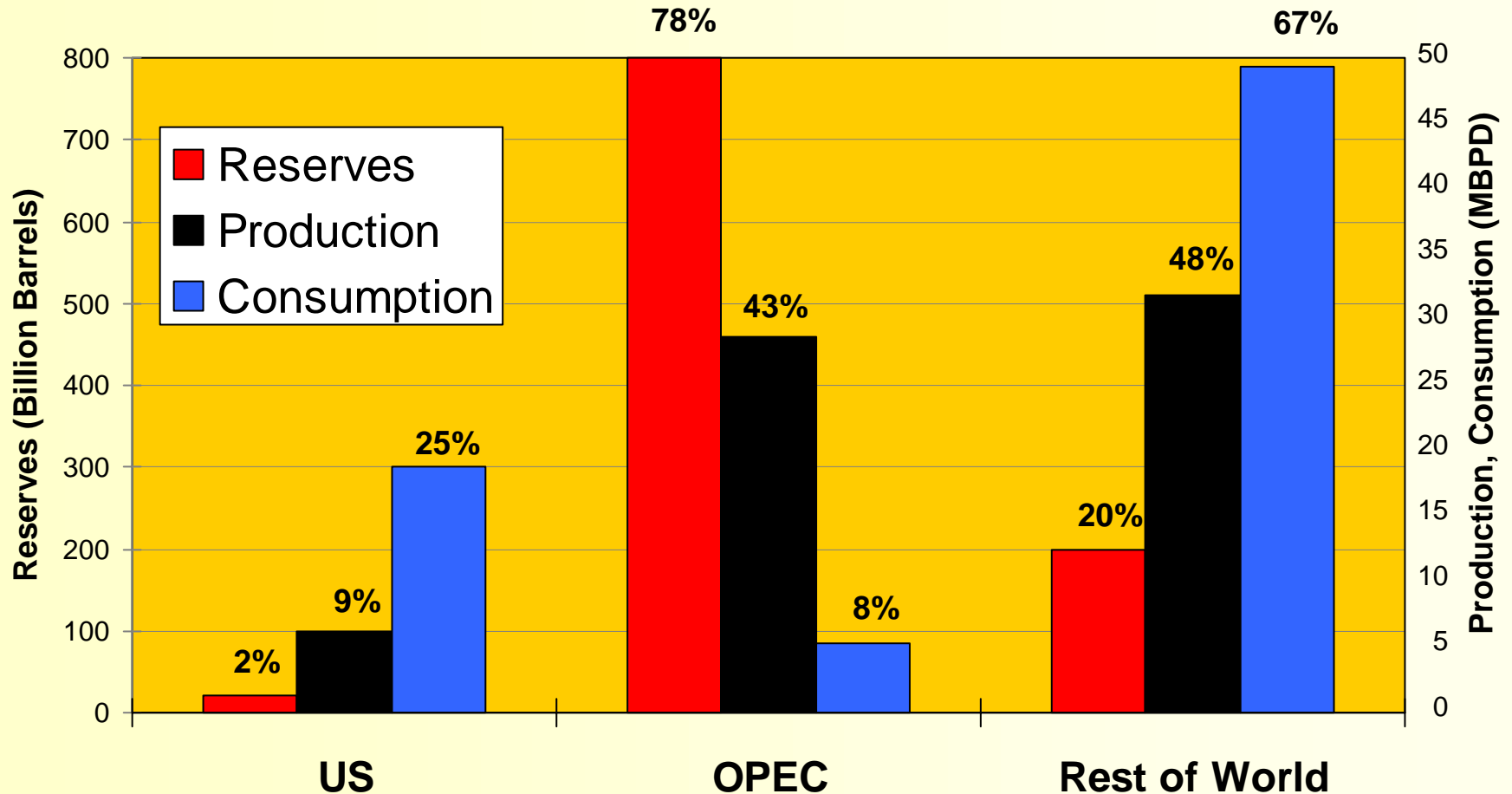
**Estimated World Oil Resources 1,614 Billion Barrels
(U.S. Geological Survey)**



Source: OTT Analytic Team



World Oil Reserves are Consolidating in OPEC Nations



Source: DOE/EIA, International Petroleum Statistics Reports, April 1999; DOE/EIA, International Energy Annual 1997, DOE/EIA0219(97), February 1999.



**What Does All This Have To Do
With Private and Local Fleets?**

**That's what we're here to
talk about!**



DOE's Authority

ENERGY POLICY ACT OF 1992 - P.L. 102-486

- **Section 507(g)** authorizes DOE to establish fleet requirements for other (local government and private) fleets starting with Model Year 2002 (*Conditional*)
- **Section 507(k)** authorizes DOE to consider including requirements for urban transit bus fleets (if it promulgates requirements for local government and private fleets)



DOE's Authority

ENERGY POLICY ACT OF 1992 - P.L. 102-486

- **Section 502** sets goals of replacing U.S. motor fuel with replacement fuels (alt. fuels and non-petroleum portions in other fuel blends) at the following levels:
 - 10% by 2000
 - 30% by 2010
- **Section 502** also authorizes DOE to establish a Replacement Fuel Program
- **Section 504** authorizes DOE to modify the replacement fuel goals, AND to develop additional regulations as necessary



Replacement Fuel Goal Modification

- The Replacement Fuel goals suggested by EPACT are:
 - 10% by 2000
 - 30% by 2010
- These goals are modifiable by DOE, taking into account:
 - Federal Fleet Program
 - State and Alternative Fuel Provider Program
 - Replacement fuel use in other fuels
 - Clean Cities program
 - State laws and incentives



Replacement Fuel Goal and Acquisition Schedule Modification

- DOE can only modify the schedule for a local government and private fleet program if it first modifies the replacement fuel goal for 2010, both in terms of year and percentage
- If DOE modifies the replacement fuel goal, the new goal must be specifically conditioned upon its achievement through a local government and private fleet program
- DOE's determination must take into account
 - Existing mandatory programs
 - Voluntary programs
 - Other relevant activities



Consultation Requirements

Executive Order 13132, "Federalism"

- Issued August 4, 1999
- Requires Federal agencies to have "an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications"
- DOE's statement of policy (March 2000) requires a notice to State and local officials to:
 - Describe nature/authority for rulemaking
 - Give DOE's estimates of effects on State and local governments
 - Invite them to participate in regulation development



DOE's On-Going Process

Previous consultations include:

- Stakeholder meetings held in Long Beach, CA (June 97) and Dallas, TX (November 97)
- Publication of ANOPR on 4/17/98 - 80 written comments received; 40 people testified
- Stakeholder meetings held in Washington, DC (October/November 98)



Approach/Rationale

- DOE believes that the replacement fuel goals are very important, and that they are **the driving force** behind EPACT' s alternative and replacement fuel provisions
- Fleet programs are critical to the achievement of these goals
- The success of any fleet program depends on:
 - A clear goal and strategy for the program
 - Flexibility
 - Ease of Reporting
 - Actual alternative and/or replacement fuel use**



Regulatory Options for Discussion

1. **No regulatory requirements**
2. **EPACT 507(g) AFV Acquisition Requirements**
3. **The Fleet Rewards Program**
4. **The Replacement Fuel Program**
5. **Extending Flexible Options to Other Fleets**
6. **Alternative Fuel Transit Bus Requirements (under EPACT 507(k))**



Option 1 - No Requirements

- DOE could decide not to propose any alternative fuel requirements on local government and private fleets
- If so, **EPACT Sec. 509** requires DOE to submit to Congress recommendations for possible requirements or incentives for fuel suppliers, vehicle suppliers, and motorists, that would achieve EPACT's replacement fuel goals



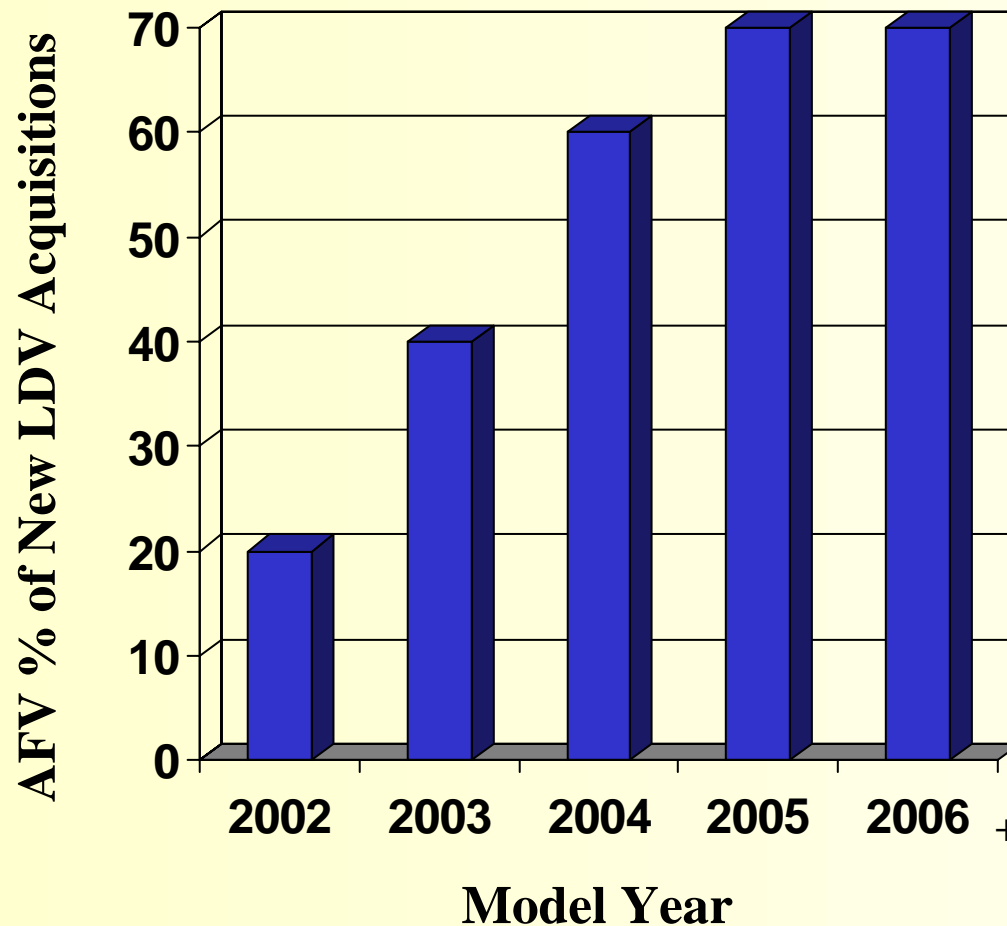
Option 2 - 507(g)

- Per EPACT **Section 507(g)**, fleets would be required to obtain AFVs as a specific percentage of their new light duty vehicle acquisitions
- Acquisition percentages would start at **20% for MY2002** and rise to **70% for MY2005, and thereafter**
- This program would operate similar to existing State & Fuel Provider Program



Option 2

Section 507(g) AFV Acquisition Schedule





Option 2 - 507(g)

- Fleets could achieve compliance by:
 - Acquiring light-duty AFVs
 - Acquiring excess or early AFVs, for which AFV Credits are allocated (which can be applied against a fleet's requirements)
- AFV Credits could also be earned for the acquisition of light, medium- and heavy-duty AFVs
- AFV Credits could be earned through the use of biodiesel in medium- and heavy-duty AFVs



Option 3 - Fleet Rewards

- This **flexible** approach would allow fleets to **voluntarily** choose an **alternate compliance approach**, under which they could earn credit toward their requirements for **BOTH** AFV acquisitions and alternative fuel use.
- Fleets could achieve compliance by taking the following :
 - The acquisition of any size class of AFV (1 credit each).
 - The use of specific Gasoline Gallon Equivalent quantities of alternative fuel (1 credit for each 500 GGE used).
- These actions would earn a fleet **AFV-Equivalency Credits**, which would be this option's unit of compliance



Option 3 - Fleet Rewards

- Acquisitions of newly acquired dedicated AFVs would earn 2 AFV-Equivalency credits -- 1 for the initial vehicle acquisition, and 1 for the estimated first year's alternative fuel use
- Operation of an existing dedicated AFV could earn 1 credit each year it is in the fleet
- Use of **all types and classes of AFVs** would be acceptable for compliance.



Option 4 - Replacement Fuel Program

- Flexible Program focused on replacement fuel use, **NOT** the acquisition of AFVs
- Only EPACT defined “fleets” would have replacement fuel use requirements
- Replacement fuel is defined as the portion of any fuel that is a neat alternative fuel or an ether (MTBE, ETBE)
- The baseline for determining requirements would be the quantity of fuel used annually by a fleet
- The Replacement Fuel Program would require that a specific percentage of a fleet’s annual fuel usage must be comprised of replacement fuels



Option 4 - Replacement Fuel Program

- Fleets could achieve compliance by using alternative fuels, replacement fuels or fuel blends
- Compliance would be counted in terms of Gasoline Gallon Equivalents (GGE) of replacement fuel used
- Replacement fuel use in medium- and heavy-duty vehicles, existing fleet vehicles, and excluded vehicle classes would be allowed to count toward requirements
- Possibility of earning partial replacement fuel credit for a reduction in annual fuel consumption
- Other fleets, individuals and alternative fuel providers may be able to earn replacement fuel credits
- Potential for simplified reporting requirements



Option 5 - Extending Flexible Options

- **Could State fleets participate in Option 3 or 4?**
Could these, or other flexible approaches be extended to State Fleets even if no requirements are set for local government and private fleets?
- **Could non-covered fleets and even individuals be allowed to generate credits under Fleet Rewards or Replacement Fuel Program?**
- **Is there a way to provide replacement fuel credits to alternative fuel providers for establishing fueling infrastructure?**



Option 6 - Urban Transit Buses

- Any program must contribute to replacement fuel goals, be consistent with energy security goals, and encourage greater bus utilization
- A possible option would be to require acquisitions of new alternative fuel buses (see Option 2)
- Another option might be to require acquisitions of alternative fuel buses, but allow transit operators to opt into the Fleet Rewards Program as an optional compliance path (see Option 3)
- A third option might be a Replacement Fuel Program (see Option 4)



Option 6 - Urban Transit Buses

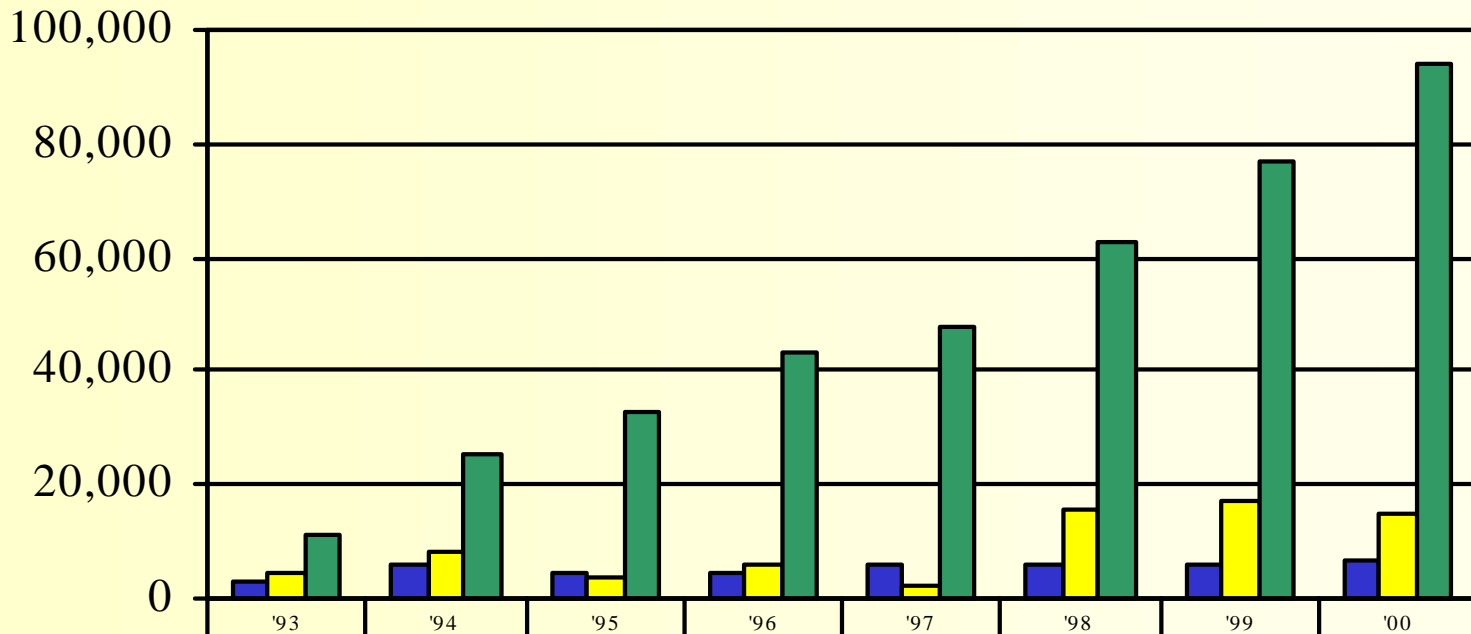
Questions:

- Should the Urban Transit Bus Program be separate from, or a subset of, the local government and private fleet program?
 - Could credit trading with local government and private fleets be allowed?
 - Which acquisition schedule to use?
- What is the minimum number of urban transit buses required to be operated?



AFVs Acquired Under Currently-Required Fleet Programs

Number of AFVs Acquired by Fleets

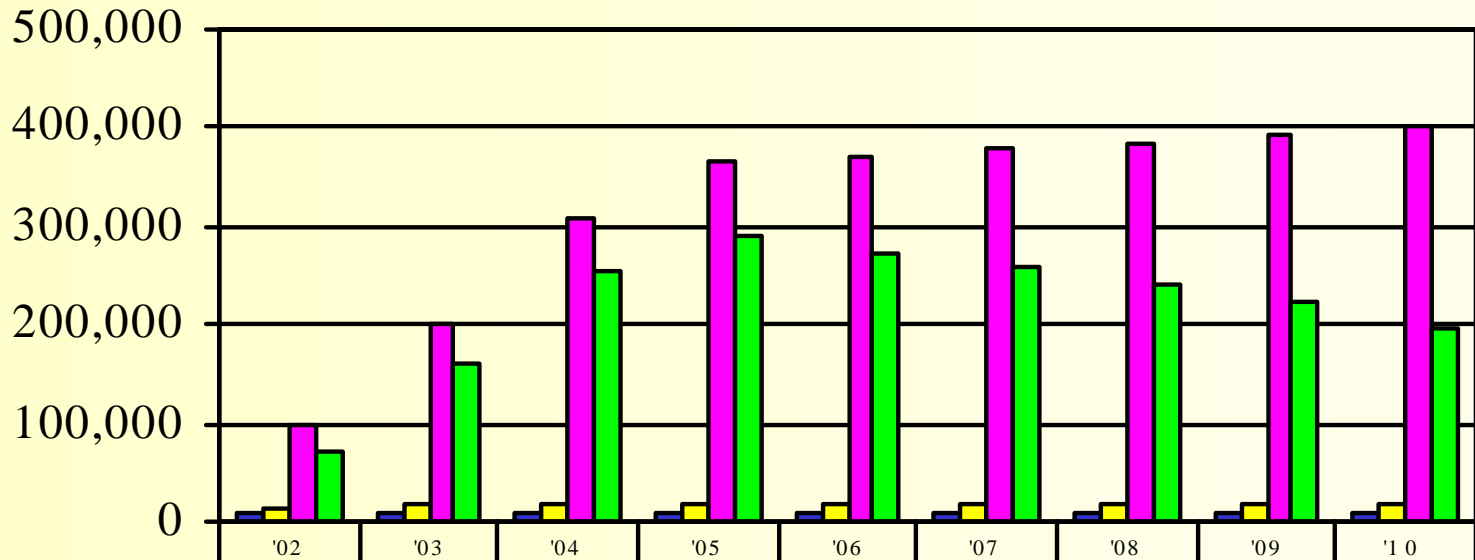


State and Fuel Provider	3,100	5,600	4,300	4,300	5,700	5,700	6,000	6,500
Federal Fleet	4,500	8,000	4,000	6,000	2,600	15,500	17,000	15,000
AFVs on Road	11,500	25,100	33,000	43,300	48,000	62,700	76,700	94,200



Regulatory Impact Analysis Results

Number of AFVs Acquired by EPACT Required Fleets



State and Fuel Provider	7,000	7,500	8,000	8,500	9,000	9,500	10,000	10,500	11,000
Federal Fleet	15,500	16,000	16,500	17,000	17,500	18,000	18,500	19,000	20,000
Baseline P&L	98,500	200,500	306,300	363,900	370,600	377,500	384,500	391,700	400,000
Fleet Rewards	72,000	162,200	252,400	290,200	272,500	258,500	242,300	221,971	198,000



The Schedule

- August 1, 2000 - **Workshop at Argonne National Laboratory, Argonne, IL** (*State and local government representatives ONLY*)
- August 22, 2000 - **Workshop at National Renewable Energy Laboratory, Golden, CO** (*State and local government representatives ONLY*)
- September 26, 2000 - **Workshop at U.S. DOE Headquarters, Washington, DC** (*Open to Everyone*)
- October 16, 2000 - **End of written comment period**



Information Sources

- **Kenneth R. Katz, Program Manager, Energy Policy Act and Alternative Fuels**
 - **(202)586-9171**
 - **Kenneth.Katz@hq.doe.gov**
- **EPACT Website:**
 - **www.ott.doe.gov/epact/private_fleets.html**
- **Alternative Fuels Data Center**
 - **www.afdc.doe.gov**
- **National Alternative Fuels Hotline**
 - **(800)423-1DOE**